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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,106	12/10/2004	Ivo Volpato	NAG-1000250	5318
25006 7590 05/12/2008 GIFTORD, KRASS, SPRINKLE, ANDERSON & CITKOWSKI, P.C PO BOX 7021 TROY, MI 48007-7021				
EXAMINER				
DRODGE, JOSEPH W				
ART UNIT		PAPER NUMBER		
1797				
MAIL DATE		DELIVERY MODE		
05/12/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,106

Applicant(s)

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Examiner

Joseph W. Drodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 27-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopf patent 6,139,746 (incorporating disclosure of Kopf patent 5,868,930) in view of Weimer patent 5,998,222 and Baemner et al patent 6,576,460. Kopf discloses a process for decontaminating a liquid food, such as milk [claim 38], contaminants comprising hormones or toxins [claim 33], using a combination of separation steps incorporating separation by polymer membrane (see

especially column 8, line 44-column 10, line 44). Column 9 incorporates disclosure of various patents including '930 for membrane details, 930 disclosing polymeric membrane materials (column 12, lines 29-51 and column 15, lines 32-43). The surfaces of the membranes used are immersed in the liquids being purified as they pass through the membranes (column 9, lines 24-45 and column 17, lines 12-20). The membranes are "immersed" in the sense that their surfaces are completely covered by the disclosed cross-flow of liquid there-across. *Kopf* '746 states at column 3, lines 4-13 that the system developed is desirably readily scalable and is adaptable to volumes of source material ranging from milliliters in research laboratories (analysis of samples) to thousands of liters in commercial biopharmaceutical production. The membranes employed are inherently "biocompatible" since the liquid foods treated are states as being removable for use as recovered product (column 9, lines 5-25).

The claims differ in requiring the membranes to incorporate antibodies specific to the contaminants and that are chemically conjugated through a linker. Weimer teaches removal of contaminants from milk and other liquids by sorption to such antibodies chemically conjugated and linked (column 5, line 10 – column 6, line 43) to substrates (sorption beads); while Baemner teaches such sorption to a membrane surface in the quantifying of biological contaminants in testing of liquid food products (especially column 8, line 25-column 10, line 17). *Baemner* states at column 15, lines 46-49 that the source material may be derived from either food or chemical processing streams and states at column 16, lines 44-48 that the process is tailored to a wide variety of analytes and environmental and food contaminants. It would have been obvious to one of ordinary skill in the art to have augmented the Kopf process, by modifying the membranes to incorporate such conjugated and linked antibodies, as taught by

Weimer and Baumner, in order to produce liquid foods which are safer for human consumption and pose fewer health risks.

Membrane materials such as nylon and woven or non-woven fabrics are listed at column, lines of the incorporated Kopf '930 patent for claims 28-30.

For claims 31 and 32, amino-containing side chains on amino acid linkers or conjugated groups are taught by Weimer at column 8, lines 13-15.

For claim 34, removal of bacterial or viral contaminants exemplified by salmonella are taught by Weimer at column 4, lines 26-29.

Operation for periods of up to hours are taught in the examples of Weimer (column 9, lines 10-11) for claims 35 and 36, agitation or stirring is generally not taught by the references for claim 37.

Use of polyclonal antibodies is taught by Weimer at column 6, lines 65-67 for claim 39.

For claims 40-42, Kopf '746 discloses that the forms and types of membranes employed may vary widely (column 9, lines 24-50).

Applicant's arguments filed on February 25, 2008 have been fully considered but they are not persuasive.

It is argued that none of the references suggest decontaminating of liquid foods in a "single operation". The instant claims do not contain such language and ***do not preclude additional decontamination steps preceding and/or following*** the passage through the polymer membranes.

It is argued that the applied references are not logically combinable since Baumner is directed to a device used for analytical purposes and deals with only very small volumes as

opposed to Kopf who is concerned with large volumes of liquid foods being processed for removal of contaminants. *However, it is submitted that Kopf explicitly also teaches a system optionally used for research laboratory analysis purposes and scalable for very large or small volumes. Bauemner explicitly concerns removal of contaminants from foods.* All of these points were discussed in the preceding body of the rejection.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Roy Sample, can be reached at 571-272-1376. The fax

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phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

July 3, 2007

/Joseph W. Drodge/
Primary Examiner, Art Unit 1797

Application Number**Application/Control No.**

10/518,106

Examiner

Joseph W. Drodge

**Applicant(s)/Patent under
Reexamination**

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